

**RAI Volume 4, Chapter 2.5.8, First Set, Number 1:** Provide the value for the maximum amount of water needed in any year to accomplish the purpose of the geologic repository operations area, for both construction and operations, specifically in reference to the discussion in SAR Section 5.8.4, and Repository Supplemental EIS Section 4.1.3.2.3 and Table 4.6.

Basis: This RAI pertains to DOE's information concerning water rights. The requested additional information is needed to verify compliance with 10 CFR 63.121(d).

## 1. RESPONSE

The maximum annual water need during the repository construction or operation phases is estimated to be approximately 460 acre-ft. The *Draft Supplemental Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada* (DOE 2007), Section 4.1.3.2.3 and Table 4-6, stated that the maximum annual water needed during repository construction and operation was 430 acre-ft. An update of the estimate for the maximum annual water need was made to Section 4.1.3.2.3 and Table 4-6 during finalization of the supplemental environmental impact statement (SEIS) based on an update to the supporting water balance document. The updated water balance used alternative scenarios to reduce the annual water needed during construction years 2011 to 2015 and resulted in a decrease in the number of years (from 5 years down to 2 years) that the annual water need equaled or exceeded 430 acre-ft (446 acre-ft in year 2014 and 459 acre-ft in year 2015).

The final SEIS (DOE 2008), released in July 2008 after the license application had been submitted, included the updated highest water consumption value of 460 acre-ft. However, Section 4.1.3.2.5 of the SEIS indicated that the 460 acre-ft water need would not deplete the groundwater reservoir because it remained below the estimate of lowest perennial yield of 580 acre-ft (DOE 2008, Section 4.1.3.2.3 and Table 4-6).

While SAR Section 5.8.4 reports an annual maximum water need of 430 acre-ft, the current estimate of highest predicted annual water demand is approximately 460 acre-ft, which will occur during two years of the construction phase. The proposed construction schedule in GI Section 2 has been revised in the license application update filed in February 2009. The water use estimate has not been revised to reflect the new construction schedule because the DOE will adjust the construction schedule to keep the water needs at or below the 430 acre-ft or will obtain additional temporary water rights to meet the construction needs. The status of obtaining water rights for 430 acre-ft per year is discussed in the response to RAI 4.2.5.8-003.

## 2. COMMITMENTS TO NRC

None.

### **3. DESCRIPTION OF PROPOSED LA CHANGE**

None.

### **4. REFERENCES**

Fitzpatrick-Maul, D. 2007. "SEIS Water Balance Revision 4." E-mail from D. Fitzpatrick-Maul to L. Morton, April 16, 2007, with attachment. ACC: MOL.20070816.0027; MOL.20070808.0055.

BSC 2008. *Water Balance*. Rev. 5, Las Vegas, Nevada: Bechtel SAIC Company, LLC. ACC: CCU.20080616.0017.

BSC 2009. *Water Balance*. Rev. 6, Las Vegas, Nevada: Bechtel SAIC Company, LLC. ACC: MOL.20090325.0002; MOL.20090325.0003.

DOE (U.S. Department of Energy) 2007. *Draft Supplemental Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada*. DOE/EIS-0250-S1D. Summary and 2 volumes. Las Vegas, Nevada: U.S. Department of Energy, Office of Civilian Radioactive Waste Management. ACC: MOL.20071022.0089.

DOE 2008. *Final Supplemental Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada*. DOE/EIS-0250F-S1. Las Vegas, Nevada: U.S. Department of Energy, Office of Civilian Radioactive Waste Management. ACC: MOL.20080606.0001.

**RAI Volume 4, Chapter 2.5.8, First Set, Number 2:** Describe the basis for the value of the maximum amount of water needed in any year for GROA construction and operations.

Basis: This RAI pertains to DOE's information concerning water rights. The requested additional information is needed to verify compliance with 10 CFR 63.121(d).

### **1. RESPONSE**

As discussed in the response to RAI 4.2.5.8-001, Revision 4 of the water balance (Fitzpatrick-Maul 2007) provides the basis for the value of the maximum amount of water needed in any year for geologic repository operations area construction and operations. Alternative scenarios of the water balance (BSC 2008) were prepared to reduce the annual water needs for construction during the period from 2011 to 2015. As a result, the number of years that the annual water need met or exceeded 430 acre-ft decreased from 5 years to 2 years (446 acre-ft in year 2014 and 459 acre-ft in year 2015). The proposed construction schedule in GI Section 2 has been revised in the license application update filed in February 2009. The water use estimate has not been revised to reflect the new construction schedule because the DOE will adjust the construction schedule to keep the water needs at or below the 430 acre-ft or will obtain additional temporary water rights to meet the construction needs. Revisions 6a and 6b were prepared to remove the rail component and clearly indicate water needed for geologic repository operations area construction and operations only (BSC 2009). The status of obtaining water rights of 430 acre-ft per year is discussed in the response to RAI 4.2.5.8-003.

### **2. COMMITMENTS TO NRC**

None.

### **3. DESCRIPTION OF PROPOSED LA CHANGE**

None.

### **4. REFERENCES**

Fitzpatrick-Maul, D. 2007. "SEIS Water Balance Revision 4." E-mail from D. Fitzpatrick-Maul to L. Morton, April 16, 2007, with attachment. ACC: MOL.20070816.0027; MOL.20070808.0055.

BSC 2008. *Water Balance*. Rev. 5, Las Vegas, Nevada: Bechtel SAIC Company, LLC. ACC: CCU.20080616.0017..

BSC 2009. *Water Balance*. Rev. 6, Las Vegas, Nevada: Bechtel SAIC Company, LLC. ACC: MOL.20090325.0002; MOL.20090325.0003.

**RAI Volume 4, Chapter 2.5.8, First Set, Number 3:** Provide specific information on the approach and basis to obtain such water rights as may be needed to accomplish the purpose of the geologic repository operations area (including status of beneficial use request of well VH-1; status on the appeals for decision on the 5 other wells; timetable for resolution on the request for beneficial use and the appeal; documentation that DOE has otherwise obtained water for construction and operations).

Basis: This RAI pertains to DOE's information concerning water rights. The requested additional information is needed to verify compliance with 10 CFR 63.121(d).

## 1. RESPONSE

The DOE, as a matter of comity, initiated actions to obtain permanent water rights for the construction and operation of a geologic repository operations area prior to the expiration of temporary water rights in April 2001. These water permit applications are numbers 63263, 63264, 63265, 63266, and 63267, which were filed July 22, 1997 with the Nevada State Engineer (State Engineer). The total quantity that the DOE requested to be appropriated was 430 acre-ft annually. The State Engineer, in Ruling 4848 dated February 2, 2000, denied the DOE applications based on protests filed by Citizens Alert and the Nevada Agency for Nuclear Projects, stating "that the requested use threatens to prove detrimental to the public interest."

In 2000, the United States brought an action in the U.S. District Court for the District of Nevada [CV-S-00-268-RLH-(LRL)] challenging the State Engineer's ruling summarily denying five applications for water permits sought by the DOE for the geologic repository operations area. The Federal District Court abstained and the United States appealed the matter to the U.S. Circuit Court of Appeals for the Ninth Circuit. In 2001, the Ninth Circuit reversed the Federal District Court's decision to dismiss this action on abstention grounds. In 2002, the United States filed motions for preliminary injunction and summary judgment, seeking reversal of the State Engineer's decision denying the permits and an interlocutory injunction preventing the State Engineer from interfering with the DOE water use for the Yucca Mountain repository. While those motions were pending, the State Engineer stipulated to the DOE use of potable water at Yucca Mountain. In 2003, the federal district court denied the United States' motions and granted the State of Nevada's motion to stay the case, instructing the state defendants to accommodate the DOE reasonable water needs for the Yucca Mountain repository. Additionally, the Federal District Court remanded the matter to the State Engineer to reconsider whether the use of the water would threaten to prove detrimental to the public interest.

The State Engineer, on remand, in Ruling 5307 dated November 7, 2003, denied the applications on the basis that the proposed use "is not a beneficial use of the public's water, and therefore, to approve said applications would threaten to prove detrimental to the public interest." Appeal of this matter has been consolidated with the prior matter in the federal district court. The Federal District Court continues to maintain the stay. However, the State Engineer has agreed to allow the DOE use of a small amount of nonpotable water (although there has been some disagreement

on the use of such water for borehole drilling) and the DOE agreed to provide notice to the State Engineer of any water use in excess of the agreed amounts.

To date, the Federal District Court has not provided the DOE with specific conditions that it must meet before lifting the stay and proceeding on the merits in this matter. However, the Federal District Court in its Order dated August 31, 2007, regarding injunctive relief for water use for the DOE borehole drilling program, identified several programmatic issues that have now been resolved. Specifically, the DOE has filed its license application with the NRC, and the U.S. Environmental Protection Agency) and NRC have each finalized their rules regarding the radiation protection standard. The DOE will make its best efforts to resolve the water issues before the NRC issues construction authorization. However, in the event that the DOE determines that this matter may not be successfully resolved prior to issuance of a construction authorization, the DOE may elect to request an exemption from the applicable regulation, 10 CFR 63.121(d) ("Water rights").

The DOE has a permitted water right for well VH-1. The permit number is 57375. The DOE filed a proof of beneficial use by letter dated April 5, 2002, in the amount of 2.3 acre-ft per year. The supply from VH-1 is not sufficient to provide for the projected water demands to construct and operate the repository. This well is shown on SAR Figure 5.8-1 near the west boundary of the proposed land withdrawal area.

## **2. COMMITMENTS TO NRC**

None.

## **3. DESCRIPTION OF PROPOSED LA CHANGE**

None.

**RAI Volume 4, Chapter 2.5.8, First Set, Number 4:** Describe how DOE intends to comply with 10 CFR 63.121(d)(2), i.e., any water rights that may be included under additional controls for permanent closure.

Basis: This RAI pertains to DOE's information concerning water rights. The requested additional information is needed to verify compliance with 10 CFR 63.121(d).

## 1. RESPONSE

10 CFR 63.121(d) relates to potential postclosure uses of water by others outside the geologic repository operations area (GROA) that could significantly reduce the geologic repository's ability to achieve waste isolation. The DOE believes that no additional water rights controls are needed for permanent closure in order to comply with the provisions of 10 CFR 63.121(d). The initial conditions of the performance assessment are nominally based on current conditions at Yucca Mountain, which do not include uses of water outside the GROA that could significantly reduce the geologic repository's ability to achieve waste isolation. The DOE has identified no water uses outside the GROA that are expected to have a significant effect on waste isolation during postclosure. The DOE position is consistent with 10 CFR 63.305(b), which states that "DOE should not project changes in society, the biosphere (other than climate), human biology, or increases or decreases in human knowledge or technology. In all analyses done to demonstrate compliance with this part, the DOE must assume that all of those factors remain constant as they are at the time of submission of the license application."

The DOE, as described in the response to RAI 4.2.5.8-010, intends to develop an access control plan that will include controls needed during the preclosure period as required by 10 CFR 63.121(c), as well as any controls that may be necessary for permanent closure as required by 10 CFR 63.121(b). These controls, which will be modified from existing preclosure controls or developed as part of the determination to close the repository, will assure that access to (and any related activities, such as drilling in) the postclosure controlled area following closure will be evaluated for impact to the postclosure safety analyses prior to allowing such access. Any existing wells and associated water rights will be evaluated at the time of permanent closure as part of these access controls, and any actions that are needed to assure compliance with the postclosure performance assessment initial conditions will be taken at that time.

Accordingly, while no specific additional or new water rights controls are needed for permanent closure at this time, the access control program will assure that evaluation of activities within the postclosure controlled area is performed for consistency with the postclosure performance assessment.

## 2. COMMITMENTS TO NRC

None.

ENCLOSURE 4

Response Tracking Number: 00208-00-00

RAI: 4.2.5.8-004

**3. DESCRIPTION OF PROPOSED LA CHANGE**

None.

**RAI Volume 4, Chapter 2.5.8, First Set, Number 5:** Provide a specific description of the boundaries of the entire geologic repository operations area at a level of detail appropriate for records associated with land ownership.

Basis: RAI 5 pertains to DOE's information concerning ownership of land. The requested additional information is needed to verify compliance with 10 CFR 63.121(a).

### **1. RESPONSE**

10 CFR 63.2 defines the geologic repository operations area (GROA) as "a high-level waste facility that is part of a geologic repository, including both surface and subsurface areas, where waste handling activities are conducted." Consistent with this definition, SAR Section 1.1.1.1.4 defines the GROA in the same manner and describes the GROA to include: (1) the maximum extent of the surface portion of the GROA (based on phased development), where the boundary of this area encompasses both the protected area and the restricted area, including the area in the vicinity of the aging pads, and (2) the subsurface portion of the GROA repository layout, including ramps and shafts. Figure 1 shows the site layout for the footprint for the surface and subsurface portion of the GROA, projected onto U.S. Bureau of Land Management Surface Management Maps of Nevada in 1988 through 1990.

The legal description of the GROA boundaries (for both the surface and subsurface portions) are as follows (by township, range, and section) in Public Land Survey System nomenclature, and contains a portion of, or is wholly encompassed within, the following sections and/or quarter sections:

#### **LEGAL DESCRIPTION OF THE SURFACE PORTION OF THE GROA**

Mount Diablo Meridian

T. 12 S, R. 50 E., Unsurveyed

Sec. 29, W $\frac{1}{2}$  and SE $\frac{1}{4}$ ;  
Sec. 30, E $\frac{1}{2}$ ;  
Sec. 31, E $\frac{1}{2}$ ;  
Sec. 32, N $\frac{1}{2}$  and SW $\frac{1}{4}$ .

T. 13 S, R. 49 E., Unsurveyed

Sec. 11, NE $\frac{1}{4}$ ;  
Sec. 12, NW $\frac{1}{4}$ .

#### **LEGAL DESCRIPTION OF THE PROJECTION TO THE SURFACE ABOVE THE SUBSURFACE PORTION OF THE GROA**

Mount Diablo Meridian

T. 12 S, R. 49 E., Unsurveyed

Sec. 13, SE $\frac{1}{4}$ ;  
Sec. 23, SE $\frac{1}{4}$ ;  
Secs. 24 and 25;  
Sec. 26, E $\frac{1}{2}$ ;  
Sec. 35, E $\frac{1}{2}$ ;  
Sec. 36, W $\frac{1}{2}$ .

T. 12 S, R. 50 E., Unsurveyed

Sec. 18, SW $\frac{1}{4}$ ;  
Sec. 19, W $\frac{1}{2}$  and SE $\frac{1}{4}$ ;  
Sec. 30, NE $\frac{1}{4}$  and SW $\frac{1}{4}$ ;  
Sec. 31, N $\frac{1}{2}$ .

T. 13 S, R. 49 E., Unsurveyed

Sec. 9, E $\frac{1}{2}$ ;  
Sec. 10, NW $\frac{1}{4}$ ;  
Sec. 14, NW $\frac{1}{4}$ ;  
Sec. 15, N $\frac{1}{2}$ ;  
Sec. 16, NE $\frac{1}{4}$ .

## **2. COMMITMENTS TO NRC**

None.

## **3. DESCRIPTION OF PROPOSED LA CHANGE**

None.

ENCLOSURE 5

Response Tracking Number: 00209-00-00

RAI: 4.2.5.8-005

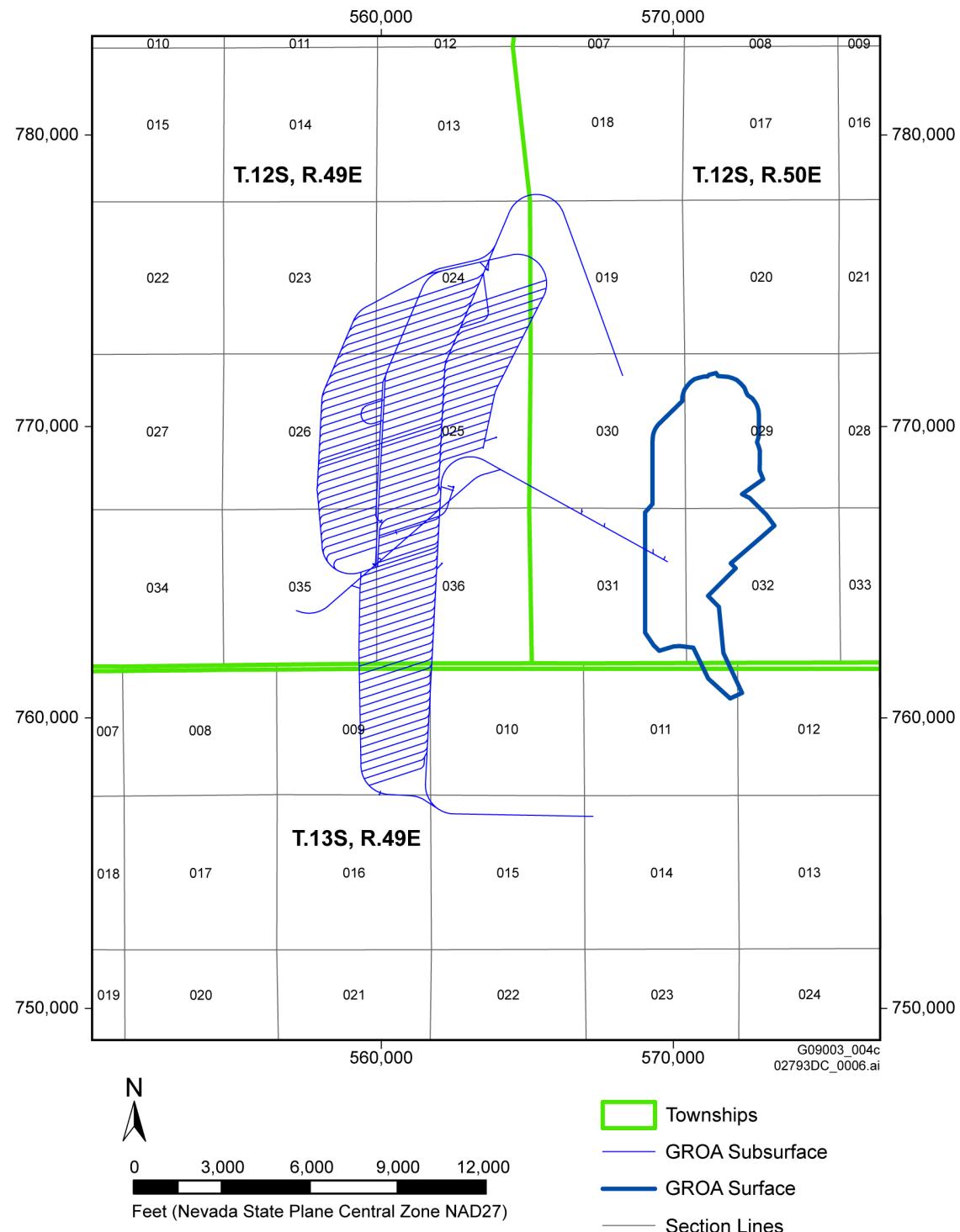


Figure 1. GROA Boundaries

**RAI Volume 4, Chapter 2.5.8, First Set, Number 6:** Provide a specific description of the boundaries of the preclosure controlled area at a level of detail appropriate for use with other land records.

Basis: This RAI pertains to DOE's information concerning controls through permanent closure. The requested additional information is needed to verify compliance with 10 CFR 63.121(c).

## 1. RESPONSE

The site boundary, as described in SAR Section 5.8.3, will be considered as the boundary of the preclosure controlled area. The site boundary, as described in SAR Section 1.1.1.1, encloses the proposed land withdrawal area. The site boundary is the external boundary of the site and can be determined as the northern, eastern, southern, and western extent of the described lands. It is noted that the proposed land withdrawal area does not include the patented mining claim property (Patent 27-83-0002). The land withdrawal boundary (preclosure controlled area), projected onto U.S. Bureau of Land Management Surface Management Maps of Nevada in 1988 through 1990, is shown in Figure 1.

The legal description of the proposed land withdrawal area (and consequently the preclosure controlled area) is as follows (by township, range, and section) in Public Land Survey System nomenclature, and contains a portion of, or is wholly encompassed within, the following sections and/or quarter sections:

### LEGAL DESCRIPTION OF PRECLOSURE CONTROLLED AREA

Mount Diablo Meridian

T. 11 S., R. 49 E., Unsurveyed

Sec. 31, S $\frac{1}{2}$ S $\frac{1}{2}$ ;

Sec. 32, S $\frac{1}{2}$ S $\frac{1}{2}$ ;

Sec. 33, S $\frac{1}{2}$ S $\frac{1}{2}$ ;

Sec. 34, S $\frac{1}{2}$ S $\frac{1}{2}$ ;

Sec. 35, S $\frac{1}{2}$ S $\frac{1}{2}$ ;

Sec. 36, S $\frac{1}{2}$ S $\frac{1}{2}$ .

T. 11 S., R. 50 E., Unsurveyed

Sec. 31, S $\frac{1}{2}$ S $\frac{1}{2}$ ;

Sec. 32, S $\frac{1}{2}$ S $\frac{1}{2}$ ;

ENCLOSURE 6

Response Tracking Number: 00210-00-00

RAI: 4.2.5.8-006

Sec. 33, S $\frac{1}{2}$ S $\frac{1}{2}$ ;

Sec. 34, S $\frac{1}{2}$ S $\frac{1}{2}$ ;

Sec. 35, S $\frac{1}{2}$ S $\frac{1}{2}$ ;

Sec. 36, S $\frac{1}{2}$ S $\frac{1}{2}$ .

T. 12 S., R. 49 E., Unsurveyed

All.

T. 12 S., R. 50 E., Unsurveyed

All.

T. 13 S., R. 48 E., Unsurveyed

Secs. 10 through 12, inclusive;

Secs. 13 through 15, inclusive;

Secs. 22 through 27, inclusive;

Secs. 34 through 36, inclusive.

T. 13 S., R. 49 E., Unsurveyed

Secs. 7 through 36, inclusive.

T. 13 S., R. 50 E., Unsurveyed

Secs. 7 through 10, inclusive;

Secs. 15 through 22, inclusive;

Secs. 27 through 34, inclusive.

T. 14 S., R. 48 E., Unsurveyed

Secs. 1 through 3, inclusive;

Secs. 10 through 15, inclusive;

Secs. 22 through 27, inclusive;

Sec. 34 (excluding that portion south of the northern boundary of the U.S. Highway 95 right-of-way);

ENCLOSURE 6

Response Tracking Number: 00210-00-00

RAI: 4.2.5.8-006

Sec. 35;

Sec. 36 (except patented land) Patent No. 27-83-0002 - S $\frac{1}{2}$ N $\frac{1}{2}$ S $\frac{1}{2}$ S $\frac{1}{2}$ NE $\frac{1}{4}$ , S $\frac{1}{2}$ S $\frac{1}{2}$ SE $\frac{1}{4}$ , N $\frac{1}{2}$ SE $\frac{1}{4}$ , N $\frac{1}{2}$ S $\frac{1}{2}$ SE $\frac{1}{4}$ , N $\frac{1}{2}$ N $\frac{1}{2}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ , SE $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ , S $\frac{1}{2}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ .

T. 14 S., R. 49 E., Unsurveyed

All.

T. 14 S., R. 50 E., Unsurveyed

Secs. 3 through 10, inclusive;

Secs. 15 through 22, inclusive;

Secs. 27 through 34, inclusive.

T. 15 S., R. 48 E., Unsurveyed

Secs. 1 and 2 (excluding that portion south of the northern boundary of the U.S. Highway 95 right-of-way);

Sec. 3, N $\frac{1}{2}$  (excluding that portion south of the northern boundary of the U.S. Highway 95 right-of-way).

T. 15 S., R. 49 E., Unsurveyed

Secs. 1 through 6, inclusive.

T. 15 S., R. 50 E., Unsurveyed

Secs. 3 through 6, inclusive.

## **2. COMMITMENTS TO NRC**

None.

## **3. DESCRIPTION OF PROPOSED LA CHANGE**

None.

ENCLOSURE 6

Response Tracking Number: 00210-00-00

RAI: 4.2.5.8-006

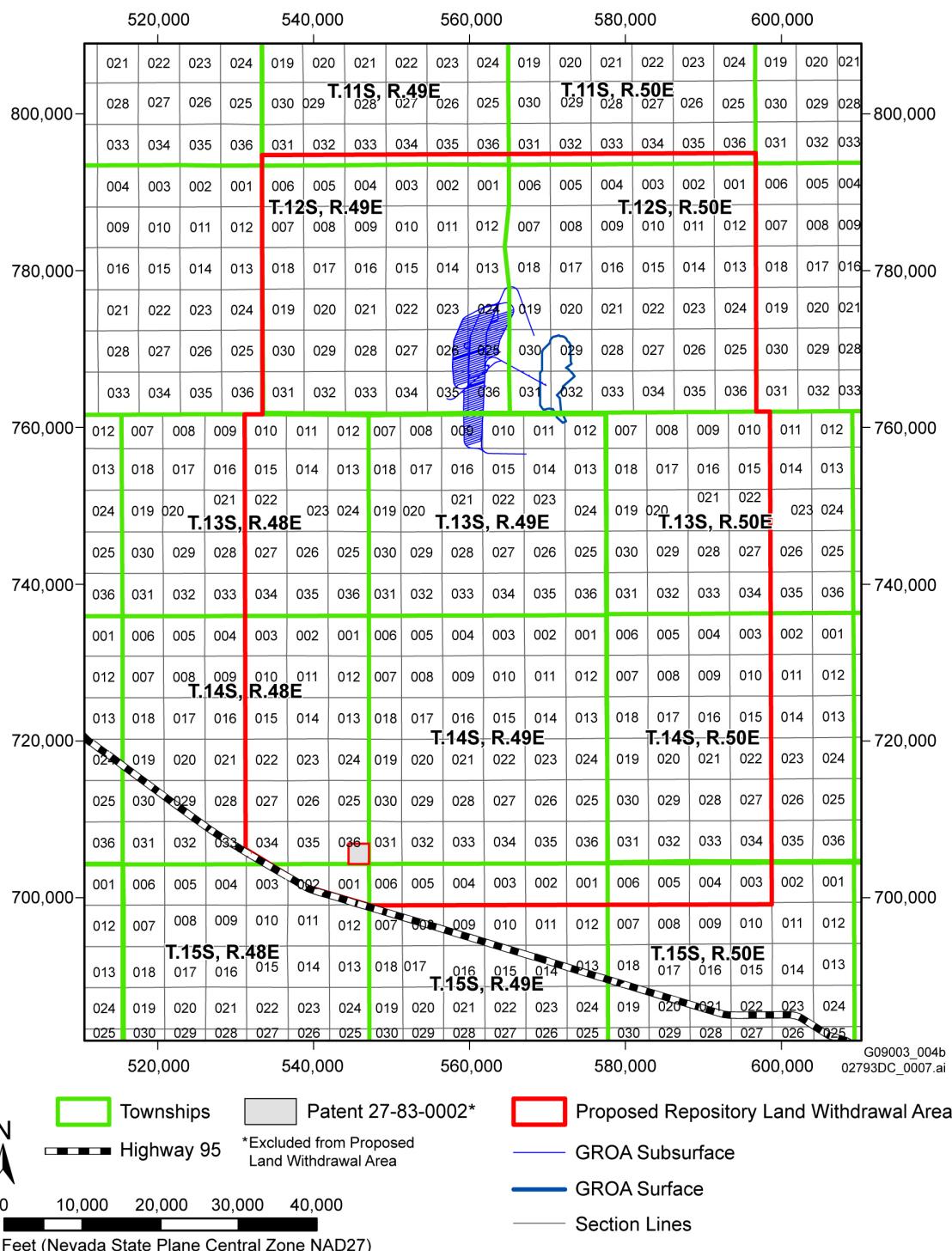


Figure 1. Land Withdrawal Boundary (Preclosure Controlled Area and Site Boundary)

**RAI Volume 4, Chapter 2.5.8, First Set, Number 7:** Clarify the land ownership and acreage of Patent 27-83-0002, relative to the statements in SAR Section 5.8.2.2.1, and the Answer of the U.S. Department of Energy to the State of Nevada's Petition to Intervene, dated January 16, 2009, Footnote 119 (at 1753).

Basis: This RAI pertains to DOE's information concerning ownership of land. The requested additional information is needed to verify compliance with 10 CFR 63.121(c).

## 1. RESPONSE

The ownership and acreage of the patented mining claim (Patent 27-83-0002) discussed in SAR Section 5.8.2.2.1 as a 203-acre plot owned by Cind-R-Lite is incorrect. The U.S. Department of Interior Bureau of Land Management granted entitlement of Patent Number 27-83-0002, with 182.5 acres, to Hollie O. Allen. However, Ms. Allen's estate was probated in 1989, and the current owner of this patent is not known to the DOE. Therefore, the DOE does not make any assertions as to the current ownership of this patent claim, except to state that it continues to be privately held. Also, the precise size of this patent is 182.5 acres. Accordingly, the DOE will update the license application to correctly state that Patent 27-83-0002 comprises 182.5 acres of private property within T. 14 S., R. 48 E., Section 36.

Regarding the DOE's Answer to the State of Nevada's Petition to Intervene, specifically NEV-SAFETY-189 and Footnote 119 (at 1753), the patented mining claim area has been mined by the Cind-R-Lite Co., Inc. and has been commonly referred to as Cind-R-Lite. However, the footnote incorrectly states that the claim owner is Cind-R-Lite. An errata has been filed to correct the footnote.

## 2. COMMITMENTS TO NRC

The DOE commits to update the license application to reflect the private ownership and the correct acreage of Patent 27-83-0002. The updated license application text will be included in a future license application update.

## 3. DESCRIPTION OF PROPOSED LA CHANGE

GI Figures 1-2 and 1-4 and SAR Figures 1.1-1, 1.1-6, 1.1-154, 5.8-1, 5.8-2, and 5.8-5 will be revised to show that the Patent 27-83-0002 area is private land excluded from the proposed land withdrawal area.

SAR Figures 1.1-6, 1.1-154, and 5.8-1 will be revised to label the excluded private land as Patent 27-83-0002.

SAR Section 5.8.2.2.1, second paragraph, first sentence, will be replaced with these two sentences:

Patent 27-83-0002 (BLM 1982) is a 182.5-acre privately owned plot within T. 14 S., R. 48 E., Section 36, and is located approximately 10 miles south of Yucca

ENCLOSURE 7

Response Tracking Number: 00211-00-00

RAI: 4.2.5.8-007

Mountain. The proposed land withdrawal area excludes the area comprising this patent.

**RAI Volume 4, Chapter 2.5.8, First Set, Number 8:** Clarify the land ownership boundary inconsistencies as described in SAR Section 5.8.2.2.1 and in Figure 5.8-1, compared to that depicted in Figure 5.8-2.

Basis: This RAI pertains to DOE's information concerning controls through permanent closure. The requested additional information is needed to verify compliance with 10 CFR 63.121(c).

### **1. RESPONSE**

Based on the clarification call with the NRC, the scope of this response is limited to the Patent 27-83-0002 area and how it is depicted in Figures 5.8-1 and 5.8-2. In SAR Section 5.8.2.2.1, the DOE states that there is only one patented mining claim "within the area shown in Figure 5.8-1." The claim is Patent 27-83-0002 (the mining claim). The mining claim property is within T. 14 S., R. 48 E., Section 36, and this section is physically located inside the area shown in GI Figures 1-2 (Federal Land Immediately Surrounding Yucca Mountain) and GI Figure 1-4 (Site and Postclosure Controlled Area) (collectively, the GI Figures) and SAR Figures 1.1-1 (Site Boundary), 1.1-6 (Nevada Test Site Regional Location Map), 1.1-154 (Yucca Mountain Repository Proposed Land Withdrawal Area), 5.8-1 (Land Use and Ownership), 5.8-2 (Site, Controlled Areas, and Proposed Ownership Area Boundaries), 5.8-5 (Postclosure Controlled-Area Markers) (collectively, the SAR Figures). However, the mining claim property is excluded from the proposed land withdrawal area. The GI Figures and SAR Figures do not show that the mining claim property is excluded from the proposed land withdrawal boundary area. Accordingly, the DOE will update the GI Figures and SAR Figures and associated text to show that the mining claim property is excluded from the proposed land withdrawal area boundary and is not part of the controlled area, as defined in SAR Section 1.1.1.1.2, over which the DOE controls access.

### **2. COMMITMENTS TO NRC**

The DOE commits to update the license application to reflect changes to GI Figures 1-2 and 1-4 and SAR Figures 1.1-1, 1.1-6, 1.1-154, 5.8-1, 5.8-2, 5.8-5, and associated text to indicate that the mining claim property is excluded from the proposed land withdrawal area boundary, and is not part of the controlled area over which the DOE controls access. The revised GI Figures and SAR Figures and associated text describing the excluded area will be included in a future license application update.

### **3. DESCRIPTION OF PROPOSED LA CHANGE**

GI Figures 1-2 and 1-4 and SAR Figures 1.1-1, 1.1-6, 1.1-154, 5.8-1, 5.8-2, and 5.8-5 will be revised to show that the Patent 27-83-0002 area is private land excluded from the proposed land withdrawal area.

SAR Figures 1.1-6, 1.1-154, and 5.8-1 will be revised to label the excluded private land as Patent 27-83-0002.

ENCLOSURE 8

Response Tracking Number: 00212-00-00

RAI: 4.2.5.8-008

SAR Section 5.8.2.2.1, first paragraph, last sentence, will be revised to state:

There is only one patented mining claim in the vicinity of the proposed land withdrawal area shown in Figure 5.8-1. The proposed land withdrawal area excludes the area comprising this patent.

SAR Section 5.8.2.2.1, second paragraph, first sentence, will be replaced with these two sentences:

Patent 27-83-0002 (BLM 1982) is a 182.5-acre privately owned plot within T. 14 S., R. 48 E., Section 36, and is located approximately 10 miles south of Yucca Mountain. The proposed land withdrawal area excludes the area comprising this patent.

**RAI Volume 4, Chapter 2.5.8, First Set, Number 9:** Provide a specific description of the boundaries of the postclosure controlled area at a level of detail appropriate for use with other land records.

Basis: RAI 9 pertains to DOE's information concerning controls for permanent closure. The requested additional information is needed to verify compliance with 10 CFR 63.121(b).

### **1. RESPONSE**

The postclosure controlled area for the repository, projected onto U.S. Bureau of Land Management Surface Management Maps of Nevada for 1988 through 1990, is shown in Figure 1.  $36^{\circ}40'13.6661''$  North latitude, as indicated in 10 CFR 63.302(1)(i), corresponds to the south section line of T. 15 S., R. 49 E, Sections 1, 2, 3, 4, and 5 and of T. 15 S, R. 50 E, Section 6.

The legal description of the postclosure controlled area is as follows (by township, range, and section) in Public Land Survey System nomenclature, and contains a portion of, or is wholly encompassed within, the following sections and/or quarter sections:

#### **LEGAL DESCRIPTION OF THE POSTCLOSURE CONTROLLED AREA**

Mount Diablo Meridian

T. 12 S., R. 49 E., Unsurveyed

Sec. 1;  
Sec. 2, E $\frac{1}{2}$  and SW $\frac{1}{4}$ ;  
Sec. 3, S $\frac{1}{2}$ ;  
Sec. 9, E $\frac{1}{2}$  and SW $\frac{1}{4}$ ;  
Secs. 10 through 16, inclusive;  
Sec. 17, SE $\frac{1}{4}$ ;  
Sec. 20, E $\frac{1}{2}$ ;  
Secs. 21 and 22;  
Secs. 23 through 28, inclusive;  
Sec. 29, E $\frac{1}{2}$ ;  
Sec. 32, E $\frac{1}{2}$ ;  
Secs. 33 through 36, inclusive.

T. 12 S., R. 50 E., Unsurveyed

Sec. 5, S $\frac{1}{2}$ ;  
Sec. 6, W $\frac{1}{2}$  and SE $\frac{1}{4}$ ;  
Secs. 7 and 8;  
Sec. 9, W $\frac{1}{2}$  and SE $\frac{1}{4}$ ;  
Sec. 15, SW $\frac{1}{4}$ ;  
Secs. 16 through 21, inclusive;

ENCLOSURE 9

Response Tracking Number: 00213-00-00

RAI: 4.2.5.8-009

Sec. 22, W $\frac{1}{2}$ ;  
Sec. 27, W $\frac{1}{2}$ ;  
Sec. 28 through 33, inclusive;  
Sec. 34, W $\frac{1}{2}$ .

T. 13 S., R. 48 E., Unsurveyed

Secs. 12 and 13;  
Sec. 24, N $\frac{1}{2}$  and SE $\frac{1}{4}$ .

T. 13 S., R. 49 E., Unsurveyed

Secs. 7 through 29, inclusive;  
Sec. 30, N $\frac{1}{2}$ ;  
Secs. 32 through 36, inclusive.

T. 13 S., R. 50 E., Unsurveyed

Sec. 7;  
Secs. 18 and 19;  
Secs. 30 and 31.

T. 14 S., R. 49 E., Unsurveyed

Secs. 1 through 5, inclusive;  
Secs. 8 through 17, inclusive;  
Secs. 20 through 29, inclusive;  
Secs. 32 through 36, inclusive.

T. 14 S., R. 50 E., Unsurveyed

Secs. 6 and 7;  
Secs. 18 and 19;  
Secs. 30 and 31.

T. 15 S., R. 49 E., Unsurveyed

Secs. 1 through 5, inclusive.

T. 15 S., R. 50 E., Unsurveyed

Sec. 6.

## 2. COMMITMENTS TO NRC

None.

ENCLOSURE 9

Response Tracking Number: 00213-00-00

RAI: 4.2.5.8-009

**3. DESCRIPTION OF PROPOSED LA CHANGE**

None.

ENCLOSURE 9

Response Tracking Number: 00213-00-00

RAI: 4.2.5.8-009

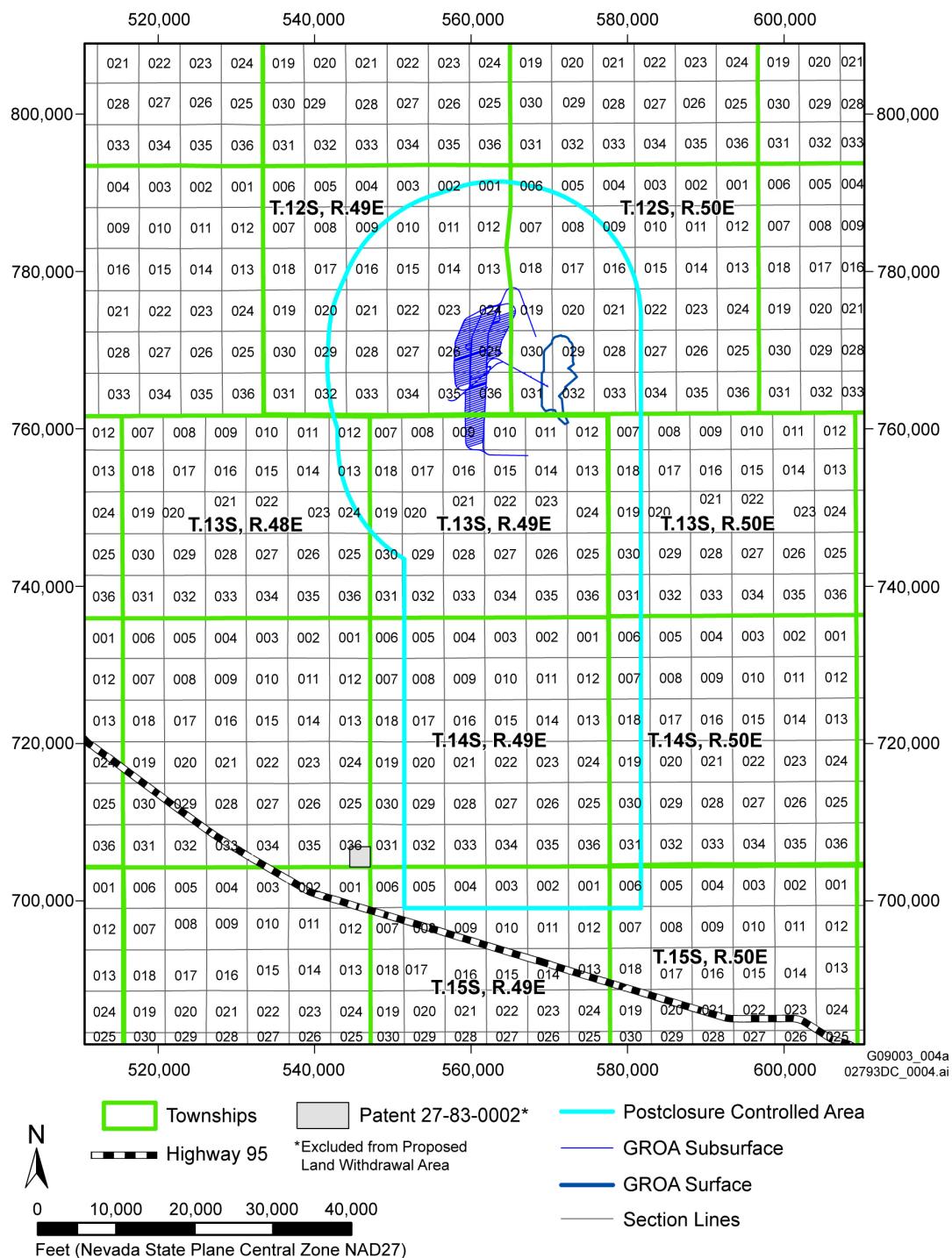


Figure 1. Postclosure Controlled Area

**RAI Volume 4, Chapter 2.5.8, First Set, Number 10:** Clarify the purpose of the postclosure access control program identified in SAR Section 5.8.3. Specifically, clarify: (1) if the program is part of the controls intended to address either the additional controls for preclosure in 10 CFR 63.121(c) or the additional controls for permanent closure in 10 CFR 63.121(b); (2) if the program is associated with either a license amendment to receive and possess as described in 10 CFR 63.43(b)(5) or a license amendment for permanent closure as described in 10 CFR 63.51(a)(3)(iii); and (3) when does DOE intend to implement this program.

Basis: RAI 10 pertains to DOE's information concerning controls for permanent closure. The requested additional information is needed to verify compliance with 10 CFR 63.121(b).

## 1. RESPONSE

The DOE intends to establish an administrative program that identifies and defines any restrictions and implementing controls for land areas outside of the geologic repository operations area. This access control program will include controls needed during the preclosure period, as required by 10 CFR 63.121(c), as well as any controls that may be necessary for permanent closure, as required by 10 CFR 63.121(b).

In accordance with 10 CFR 63.21(c)(18), the DOE has identified probable subjects of license specifications, including administrative controls in SAR Section 5.10. The DOE has proposed, in SAR Section 5.10, Table 5.10-3, that an access control program be included as one of the administrative controls required by the license specifications provided in 10 CFR 63.42 and incorporated as a condition of the license to receive and possess spent nuclear fuel and high-level radioactive waste consistent with the requirements of 10 CFR 63.43(b)(5).

As described in SAR Section 5.10.4, the DOE will submit draft license specifications to the NRC prior to the NRC issuance of the license to receive and possess spent nuclear fuel and high-level radioactive waste. The administrative controls section of the draft license specifications will contain additional detail relative to the scope and implementation of the proposed access control program. The proposed license specifications will require that the access control program address restrictions and controls necessary for the preclosure period consistent with the requirements of 10 CFR 63.121(c) to ensure compliance with 10 CFR 63.111. As required by 10 CFR 63.121(b), the access control program will also address any restrictions or controls needed during the preclosure period to ensure subsequent compliance with 10 CFR 63.113 following permanent closure. As described in SAR Table 5.10-3, the DOE will propose that the license specifications require that the access control program be modified prior to permanent closure of the repository to address any continuing or additional restrictions or controls for the postclosure period consistent with the requirements of 10 CFR 63.121(b). Continuing or additional restrictions or controls needed after permanent closure would be identified as part of the DOE application for the license amendment for permanent closure as required by 10 CFR 63.51(a)(3)(iii).

The DOE will develop and implement the access control program as required by the license specifications incorporated in the license to receive and possess spent nuclear fuel and high-level radioactive waste. The DOE anticipates that the license specifications will require that the access control program be implemented prior to receipt of licensed material at the repository. As discussed above, this access control program will be revised to incorporate any necessary restrictions or controls for postclosure in conjunction with application for the license amendment for permanent closure of the repository.

## **2. COMMITMENTS TO NRC**

The DOE will revise SAR Section 5.8.3 in a future update of the license application as described in Section 3.

## **3. DESCRIPTION OF PROPOSED LA CHANGE**

The first sentence of SAR Section 5.8.3 will be replaced with the following:

Prior to receipt of a license to receive and possess spent nuclear fuel and high-level radioactive waste, and in accordance with 10 CFR 63.121(c), an access control program will be implemented to ensure that the requirements of 10 CFR 63.111(a) and (b) are met.

The last paragraph of SAR Section 5.8.3, referencing a separate postclosure access control program, will be deleted.